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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,340

03/18/2005

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EXAMINER

CHAN, RICHARD

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

09/07/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/528,340

Applicant(s)

MATSUI ET AL.

Examiner

Richard Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/19/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18 and 20 is/are rejected.
- 7) ☒ Claim(s) 17 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 6/19/07 have been fully considered but they are not persuasive.

With respect to applicant's arguments regarding claim 1, the applicant states that the Honcharenko reference does not disclose adaptive modulation, and fails to teach or suggest determining whether the communication environment of a transmission path is in condition in which communication can be carried out without degrading the communication quality when the modulation method is switched to the one having the larger multi-value number.

The examiner disagrees that the Honcharenko reference does not disclose such teachings. The applicant's instant application discloses wherein the multi-value number corresponds to the 16QAM method and QPSK modulation method as disclosed in page 2 of the specification, which corresponds to the Honcharenko. Honcharenko discloses in Col.5 line 46-56 wherein based on the Signal-to-noise ratio and location of the base station to the mobile station, a modulation scheme is chosen. A high density QAM constellation is implemented when the environment of the system allows for such a modulation scheme, however if presented with greater distance and lower SNR situation, the system switches off to a QPSK modulation constellation in order to maintain reception with the base station.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-16, 18, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Honcharenko (US 6,349,217).

With respect to claims 1, 5, and 11 Honcharenko discloses the wireless apparatus, method, and program capable of supporting two types of modulation methods having different multi-value numbers Fig.8, comprising:

a modulation method switching unit Duplexer configured to switch, when another wireless apparatus to be in wireless connection with the wireless apparatus is capable of supporting said two types of modulation methods, the modulation method between a first modulation method having a smaller multi-value number and a second modulation method having a larger multi-value number, while the wireless apparatus is communicating with said another wireless apparatus; (Col.3 line 3-34)

a storing unit 42 configured to store a first threshold value of a parameter indicative of communication environment of transmission path, at which the wireless apparatus can communicate with said another wireless apparatus at least by said second modulation method of said two types of modulation methods;

a parameter measuring unit (demodulator) configured to measure said parameter based on a signal received from said another wireless apparatus;

a parameter comparing unit 42 configured to compare, when there is a connection request from said another wireless apparatus to the wireless apparatus, said stored first threshold value of the parameter corresponding to said second modulation method with said measured parameter; (Col.6 line 28-48) and

a channel allocation determining unit configured to permit, when it is determined by said parameter comparing unit that said measured parameter is not lower than said stored first threshold value of the parameter, allocation of a wireless channel to said another wireless apparatus. (Col.3 line 17-23)

With respect to claims 2, 7, and 12, Honcharenko discloses the wireless apparatus method, and program according to claim 1, 6, and 11 Honcharenko continues to disclose wherein said storing means stores in advance a second threshold value of a parameter indicative of communication environment of transmission path, at which the wireless apparatus can communicate with another wireless apparatus by said first modulation method; and when there is a connection request from another wireless apparatus that supports said first modulation method but not said second modulation method to the wireless apparatus, said parameter comparing means compares said stored second threshold value of the parameter corresponding to said first modulation method with the parameter measured by said parameter measuring means, and when it is determined by said parameter comparing means that said measured parameter is not

lower than said stored second threshold value of the parameter, said channel allocation determining means permits allocation of a wireless channel to said another wireless apparatus that supports said first modulation method but not said second modulation method. (Col.3 line 14-51)

With respect to claim 3, 8, and 13, Honcharenko discloses the wireless apparatus, method, and program according to claim 1, 5, and 11 Honcharenko continues to disclose wherein said channel allocation determining means determines presence/absence of any empty slot and empty channel in the wireless apparatus, and when there is no empty slot or empty channel, rejects allocation of a wireless channel regardless of the result of comparison by said parameter comparing means. (Col.3 line 57-Col.4 line 2)

With respect to claim 4, 9, and 14, Honcharenko discloses the wireless apparatus, method, and program according to claim 1, 5, and 11 Honcharenko continues to disclose further comprising means for notifying another wireless apparatus requesting connection to the wireless apparatus about rejection of channel allocation, when said channel allocation determining means rejects allocation of the wireless channel. (Col.3 line 57-Col.4 line 2)

With respect to claim 5, 10, and 15, Honcharenko discloses the wireless apparatus, method, and program according to claim 1, 5, and 11 Honcharenko

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continues to disclose wherein the parameter is based on a reception signal level from another wireless apparatus requesting connection to the wireless apparatus. (Col.3 line 19-24)

With respect to claims 16, 18, and 20, Honcharenko discloses the wireless apparatus, method, and program according to claim 1, Honcharenko continues to disclose wherein wireless apparatus initially establishes the wireless connection with the another wireless apparatus using the first modulation method (QPSK), wherein said parameter measuring unit (demodulator) periodically measures said parameter indicative of the communication environment (SNR value) of the transmission path, and wherein, when the parameter indicative of the communication environment (S/R value) of the transmission path is greater than the first threshold value, the wireless connection between the wireless apparatus and another wireless apparatus is switched from the first modulation to the second modulation method (QAM). Step 6 (Col.6 line 31-62)

***Allowable Subject Matter***

4. Claims 17 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claims 17, the prior art discloses the wireless apparatus of claim 1, however the prior art of record does not specifically disclose wherein said parameter

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measuring unit measures said parameter indicative of the communication environment of the transmission path based only on a synchronization burst signal received by said wireless apparatus that is output by said another wireless apparatus.

With respect to claim 19, the art discloses the channel allocation method according to claim 6, however the prior art of record does not specifically disclose wherein said parameter measuring unit measures said parameter indicative of the communication environment of the transmission path based only on a synchronization burst signal received by said wireless apparatus that is output by said another wireless apparatus.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Chan  
Art Division 2618  
8/22/07



**NAY MAUNG**  
SUPERVISORY PATENT EXAMINER